## **AP 9**

## Production of lactose –free milk from whole seed and meal of sesame and evaluation of physico-chemical properties

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**Objective**: To produce lactose free milk from sesame seed and meal of sesame and evaluating its physicochemical and sensory properties.

**Methodology**: The sesame seed was dehulled and soaked for 6-8 h in water, and blanched in hot water  $(100^{\circ}C)$  for 15 min. Hot water was added seed to water 1:3 and pH was regulated by soda. The mixture of hot water and seed were mixed thoroughly in a high-speed mixer. To remove albumin 2S, as an allergic ingredient in sesame, pH was regulated to 7.3 (iso electric pH). The mixture was filtered and pH was regulated to 6.3-6.5 by citric acid, to imitate natural cow milk. The experiment treatments were pH in 3 levels (6.5, 7.5, 8.5), ratio of seed to water (1:6) and mixing time in 2 levels (15, 30 min). Protein, fat and dry matter were measured. To evaluate sensory properties, prepared samples were formulated with sugar in 4 levels (0, 5, 6, 7 %) and vanillin in 4 levels (0, 40, 60, 80 ppm).

**Results and conclusion**: The pH and mixing time had significant effect (p<0.05) on the composition of produced milk. Increasing mixing time from 15 to 30 min increased the extraction of protein, fat and dry matter. The highest output of protein was achieved at pH 8.5 and 30 min mixing time. Milk with the ratio of seed to water (1:6), natural pH (6.5), 15 min mixing time, 6% sugar and 40 ppm vanillin scored the highest by panelists.